

REMARKS

Status of the Application

Claims 1-19 are pending. Claims 1-13 have been withdrawn from consideration. Claims 14-19 stand rejected.

Election/Restrictions

Applicants confirm that they have elected without traverse to prosecute the species of Group II. Claims 14-19 are readable on the species of Group II.

Section 102 Rejections

Claims 14 and 17-19 have been rejected under 35 U.S.C. Section 102 as being anticipated by Mathews U.S. Patent No. 3,035,965. In response, applicants have amended claim 14 to distinguish it from Mathews.

As amended, claim 14 now requires that the filler be selected from the group consisting of clay nanoplatelets, carbon fibers, silicon carbide fibers and alumina fibers and that the resin matrix be selected from the group consisting of melamine, PAE (polyamide-polyamine-epichlorohydrin), phenolic resins, anionic polymers and cationic polymers. These fillers and resin matrix coatings are quite different from the teachings of Mathews as indicated below:

Applicants' fillers: clay nanoplatelets, carbon fibers, silicon carbide fibers and alumina fibers. (Application at paragraphs 0045 and 0057.)

Mathews fillers: glass, acrylics, polyamides, polyesters and cellophanes. (Mathews at col. 3, lines 4-6.)

Applicants' resin matrix coating: melamine, PAE (polyamide-polyamine-epichlorohydrin), phenolic resins, anionic polymers and cationic polymers. (Application at paragraph 0059.)

Mathews resin matrix: polyacrylic esters, polyacrylonitriles, polyvinyl chlorides, polyvinyl acetates and nitrile rubbers. (Mathews at col. 2, lines 14-18.)

Applicant respectfully requests that claim 14 as amended and its dependent claims be allowed.

Section 103 Rejections

Claims 15 and 16 have been rejected under 35 U.S.C. Section 103 as being unpatentable over Mathews in view of Provance 3,408,213. Applicants submit that claims 15 and 16 are allowable over Mathews and Provance for at least the following three reasons.

First, neither Mathews or Provance teach the particular reinforcing fibers or resin matrix coatings now being claimed by applicants in amended claim 14, which is the base claim for claims 15 and 16. As noted above, Mathews teaches quite different fillers and resin matrixes. Provance teaches glass fibers, but that is all.

Second, since Provance does not even pertain to paper or paperboard, applicants disagree that it would have been obvious to use the glass fibers of Provance in the paper making method of Mathews to achieve the invention of claims 15 and 16.

Finally, neither Mathews or Provance teach how to make a paper having a modulus of at least 0.1 GPs (claim 15) or at least 3 GPa (claim 16). Even if a person having ordinary skill in the art would have thought to use the glass fibers of Provance as a filler in the paper making process of Mathews, which applicants do not concede, it is not clear whether using Provance's glass fibers, having a modulus of elasticity of 14.5 million p.s.i. (col. 4, lines 28-29) would result in a paper having a modulus of at least 0.1 GPa or 3 GPa.

For at least these reasons applicants respectfully submit that claims 15 and 16 are

allowable.

Claim 19, a product by process claim, has been rejected under 35 U.S.C. Section 102(b) or, in the alternative, 103 in view of Cole et al 4,379,808. Cole describes a “forming board sheet” comprising cellulose fibers, a solid particulate polyolefin and an inorganic filler. Cole does not describe applicants’ initial step of coating the filler with a resin matrix. Rather, Cole teaches in his Example at col. 4, lines 18-27 simply preparing an aqueous pulp slurry made from water and cellulose fiber and adding to the slurry a solid particulate polyolefin (i.e. polypropylene fiber) and an inorganic filler (i.e. talc). Cole’s board, lacking a resin coated filler, is not the same product as that claimed in claim 19. Further, Cole does not teach or suggest the fillers or resin matrix coatings now specified in amended claim 14.

New Claims

New claims 20-23 are all dependent on claim 14. Applicant submits that these new claims are allowable for at least the same reasons as amended claim 14.

Summary

It is believed that this paper constitutes a complete response to the Office Action mailed February 21, 2007, and an early and favorable action allowing claims 14-23 is respectfully requested. The Examiner is invited to telephone Applicant's undersigned attorney if any unresolved matters remain.

Respectfully submitted,

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Dated: May 18, 2007